



**DMSO**

# ***AMG-11***

## ***TSTCore Update***

**24 April 1996**



# Topics

- **Coming Events**
- **Working Group Activities and Plans**
- **RTI Status and Directions**
- **Protocol Catalog**
- **Experimentation Support**
- **HLA Assessment and Transition Planning**
- **Documentation Updates**



# Events Calendar

- **Since last AMG meeting:**

- 6-7 March 96                      **AMG-10; release of I/F Spec v0.4**
- 11-15 March 96                  **14th DIS Workshop**
- 15 April 96                        **Protofed Tech Lead Meeting**

- **Upcoming Events:**

- 24-25 April 96                    **AMG-11**
- 30 April 96                        **RTI v0.3 release**
- 23 May 96                         **OMT v0.3 release**
- 31 May 96                         **Time Mgt Document v0.3 release**
- 5 June 96                         **MRCI PDR**
- 12-13 June 96                    **AMG-12**
- 14 June 96                        **I/F Spec v0.5 release**
- 15 July 96                         **RTI v0.4 release**
- 17-18 July 96                    **AMG-13**
- 21-22 August 96                 **AMG-14**
- 16-20 Sept 96                    **15th DIS Workshop**
- 2-6 December 96                **I/ITSEC**



# I/F Spec Working Group

- **Interface Specification Version 0.4 released 7 March 1996**
- **WG met 15 May 1996 - reviewed newly submitted comments**
- **IF Version 0.5 Schedule**
  - **WG to meet 15 May 1996**
  - **Draft v0.5 to AMG on 6 June 1996**
  - **AMG Release v0.5 14 June 1996**
- **IF Version 1.0 Schedule**
  - **IFWG to meet 25 & 26 June 1996**
  - **Brief AMG-13 on 17 July on firm areas and changing areas**
  - **IFWG to meet 30-31 July 1996**
  - **Draft v1.0 to AMG-14 August 1996**
  - **AMG-14 approve release of v1.0, 23 August 1996**
- **New comments mostly editorial and easily resolved**
- **Only Major change anticipated between v0.5 and v1.0 is Declaration Management**



# OMT Working Group

- **OMTWG-7 (9 April)**
  - OMT v0.3 Workplan Review
  - OMT v1.0 Workplan
  - Focus Area Reports
    - ♦ SOM, Fidelity, Data Dictionary, Tools, Other
  - Protofederation Reports
- **OMT v0.3 in development**
  - OMT v0.3 Inputs received (16 April)
  - OMT v0.3 Draft circulated (7 May)
  - OMT v0.3 release (23 May)



# Test Working Group Update

**TWG2 held March 27 to discuss Interface Test Procedures**

## **Comments:**

- **Execution framework is useful**
- **Keep Federate and RTI procedures together**
- **Procedures are guide for creating technical test plans**
- **Define HLA compliance process in separate document**

## **Revisions:**

- **Update procedures to v0.4**
- **Integrate state diagrams into procedures**
- **Add:**
  - **section for definitions**
  - **section on test set-up**
  - **procedures for exceptions**
  - **procedures for optional parameters**



# Time Management Group

- **Recent Activities**

- briefing at DIS Workshop, 11 Mar 96
- protofederation feedback: e-mail, met with JTFp 22 Apr 96
- examining interaction with data management: TM meeting 23 Apr 96
- incremental refinement of IF-Spec

- **Future Actions**

- continue discussions with protofederations
- complete definition of other services (not implemented in RTI, e.g., optimistic simulation) and changes related to data management
- version 0.3 of Time Management document expected by 31 May 1996
- briefing and tutorial at Annual Workshop on Parallel and Distributed Simulation (PADS), 21-24 May 96



# RTI Support

- **Weekly calls made to proto-federation and experiment members**
- **Issues Identified:**
  - **Impact of HP and IBM RTI delivery on BFTT, NSS, and CCTT's development schedules has been severe**
  - **Identification of a "race" condition within Orbix/RTI, where the RTI hangs up when users interact with it at a high frequency (the cause of this is still being determined)**
  - **Identified the need for a "Federate Implementor's Guide" containing finer specification of API and Orbix functions, as well as installation guide and step-by-step guide for linking federate with the RTI**
  - **Identified the need for "code patches" for sending attribute updates as data structures**
  - **Identified the need for RTI compatibility with CORBA/Orbix 2.0**





# Post Version 0.3 RTI/PF Conops

- **To date, mode of operation has been to isolate RTI development team from proto-federations (PFs)**
  - Allow RTI team time needed to develop RTI capabilities required for HLA experimentation by PFs (including declaration management experiments)
  - RTI Support Team formed to provide interactive support to PFs
- **With release of RTI Version 0.3,**
  - Essential functionality will be available to PFs
  - Change mode of operations to focus on providing direct RTI development participation on PF experimentation
- **Institute a PF/RTI 'buddy system'**
  - Member of RTI development team will 'join' each PF team to support HLA experimentation, phased in during May
- **Results of PF and other experiments will be used to assess timing and conduct of an RTI 0.4 release**



# IEC Support

- **JPSD facility, Integration and Evaluation Center (IEC), will be providing broader HLA integration and experimentation support**
  - Large number of hardware platforms, networks, data collection infrastructure
  - Hosts a range of different simulations through JPSD
- **Useful to have a fixed facility for ongoing HLA-related experimentation and testing**
  - Host declaration management experiments
  - Host DIS/HLA experiments (cooperatively with PPF)
  - Will provide a vehicle for more 'operational testing' of future RTI releases
- **Currently developing**
  - Reconfigurable approach to conducting performance measurement (using HLA performance measurement framework)
  - Suite of test scenarios (to be used repeatedly in current and future experimentation)



# Performance Modeling

- **Current Status**
  - Conceptual model of federation nearly complete, only advanced issues and enhancements remain
  - Version 0.1 of the model being constructed at DMSO & Mystech
  - Some parts already executing
    - machine submodel
    - comms submodel
    - preliminary version of a network of machines (federates) simulating objects and communicating through a simple RTI model
  - Ongoing discussions with JPSPD and Engineering PF re: data gathering and experiment strategy
- **Near Term Future**
  - Phased implementation will support anti- and debugging
  - Complete model v1.0 development - model of a full federation with zero cost RTI
  - Work with JPSPD to get data to populate and validate model
  - Work with JPSPD upon request to define experimentation plan



# Protocol Catalog Developments

- **DIS Data Dictionary is on-line on the DIS Standards Home Page**  
**<<http://www.sc.ist.ucf.edu/~STDS/>>**
  - Provides the flavor of what Protocol Catalog accessibility will be
- **Expansion of DIS DD into DIS++/HLA PC underway at JDBE at Ft Huachuca.**
  - ALSP data will be included by August
  - Structures for new data will be available by Sept DIS WS
- **JDBE working closely with OMTWG to create meta-model that includes PC & FOM/SOM libraries in MSRR**
- **JDBE working on Data Interchange Format to support FOM Development Tool prototypes**



# **SEI Assessment and Transition Plan Support**

**DMSO**

- **Software Engineering Institute (SEI) has joined HLA effort to**
  - **Conduct an assessment of HLA development process to date and**
  - **Support planning and conduct of HLA transition activities**
- **Currently reviewing HLA process to date**
  - **Daylong session with DMSO reviewing activities to date**
  - **Full set of current HLA documentation**
  - **Attending AMG meetings and interacting with AMG participants**
- **Initial feedback was provided based on day-long session**
- **Briefing slated for AMG-12**



# HLA Management Plan

- The HLA Management Plan has been updated to reflect administrative and organizational changes since the original version was released on 17 July 1995.
- Principal changes
  - Section 3 Program Approach. Specific milestones updated
  - Section 4 Organization and Responsibilities. Delineation of specific roles for the TST
  - Section 5 Schedule. Updated to indicate latest version of RTI, OMT, and I/F Spec release schedules.
  - Appendix B AMG Prototype Plan. Updated to reflect changes in makeup of proto-federations, additions and deletions to HLA Experiments.
- Revised plan is now Version 1.7, dated 1 April 1996.
- Plan is available on DMSO Web pages.



# Frequently Asked Questions

- **Following the 14th DIS Workshop, the Coordinating Committee, the STG VIP, and DMSO assembled a collection of more than 40 questions from the various DIS working groups.**
- **Questions were organized into categories, answers developed based on HLA documentation, past FAQs (from DMSO Web page), and from inputs from Coordinating Committee members.**
- **Final compilation has been staffed through the TST, the DIS Coordinating Committee, and the DIS Steering Committee.**
- **List will be posted to the DMSO Web site**

<http://www.dmsso.mil/projects/hla/faq/>